



Special Issue Reprint

# Redox Imbalance and Mitochondrial Abnormalities in Kidney Disease

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ISBN 978-3-0365-3757-3 (Hardback) ISBN 978-3-0365-3758-0 (PDF)

The kidney performs important functions in the human body and can inflict either acute kidney injury (AKI) or chronic kidney disease (CKD). AKI can be induced by kidney ischemia, drugs such as cisplatin, and heavy metals such as cadmium and arsenic. CKD can be induced by drugs, heavy metals, hypertension, and diabetes, as well as cancer. Importantly, nearly all kidney disorders have been shown to involve redox imbalance, reductive stress, oxidative stress, and mitochondrial abnormalities such as impaired mitochondrial homeostasis, including disrupted mitophagy and deranged mitochondrial unfolded protein responses. Understanding how these redox-related dysregulated pathways operate may give us new insights into how to design novel approaches to fighting kidney disease. This Special Issue of Biomolecules entitled "Redox imbalance and mitochondrial abnormalities in kidney disease" covers a variety of topics focusing on oxidative stress, mitochondrial dysfunction, and antioxidation enhancement implicated in kidney disease or kidney transplantation.



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